

Applicant: Suzuki
Application Serial No. 10/630,271
Amdt. dated August 24, 2006
Reply to Office Action of May 2, 2006

REMARKS/ARGUMENTS

The Office Action dated May 2, 2006 and the references cited therein have been carefully considered. In response to the Office Action, Applicant has canceled Claims 5-7 and amended Claim 4 which, when considered with the remarks set forth below, are deemed to place the case with Claim 4 in condition for allowance.

Priority Document

The Office Action first indicates that Applicant has not filed a certified copy of the priority document JP 2001-378439, as required by 35 U.S.C. §119(b). In response, Applicant advises the Examiner that a certified copy of the priority document was filed in the parent Application Serial No. 10/118,106, abandoned. Accordingly, it is respectfully submitted that the objection with respect to the priority document has been overcome.

Specification Objection

Also in the Office Action, the Specification has been objected to because of an informality. In response, Applicant has amended the paragraph beginning at line 3 of page 3 to replace the word "hart" with the word --hard--. Accordingly, it is respectfully submitted that the Specification objection has been overcome.

Claim Rejections - 35 USC §103

Claims 4 and 5 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,904,091 to Arai in view of U.S. Patent No. 5,871,833 to Henbo et al. and Claims 6 and 7 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the Arai patent in view of the Henbo patent and further in view of U.S. Patent No. 5,298,307 to Suzuki. Specifically, the Examiner states that the Arai patent teaches a method for engraving an engraving sheet, wherein the engraving sheet is engraved down to the support

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layer in response to a picture signal, depending on the magnitude of the picture signal, producing a positive image in the presence of reflected light and a negative image under the presence of transmitted light rays entering from behind the engraving sheet. The Examiner notes that the Arai patent fails to disclose an engraving layer having an opacity of 40% or more and a support layer having a lower opacity, with a difference of 20% or more. However, the Examiner cites Production Example 2 and Table 1 in the Henbo patent as disclosing an engraving layer having an opacity of 93% and a support layer having an opacity of 62%. With respect to Claims 6 and 7, the Examiner further cites the Suzuki patent as teaching an engraved picture presenting a negative image under the presence of reflected light and a positive image under the presence of transmitted light rays entering from behind.

In response, Applicants have canceled Claims 5-7 and amended independent Claim 4 to define a method of engraving an engraving sheet having a whitened engraving layer, wherein a positive image of an original photograph of a face is presented on one side of the sheet in the presence of reflected light and a negative water-mark image is presented in the presence of transmitted light rays entering from the other side of the sheet. It is respectfully submitted that none of the cited prior art references, taken alone or combined, teaches or suggests an engraving method which produces both a positive image and a negative image, as defined in amended Claim 4.

In particular, as noted by the Examiner, U.S. Patent No. 5,904,091 to Arai discloses a method for engraving a picture on an engraving sheet having a specular surface with an engraving tool. The engraving tool engraves the image in response to a picture signal derived from a negative of a photograph of a face. The lighter the negative, the more deeply the engraving layer 12 is incised. Conversely, dark portions of the negative are shallowly incised, and the periphery of the dark portions remains specular. Thus, a positive image of the photograph of the face is formed on one side of the engraving sheet under the presence of reflected light rays. However, the resulting positive image formed in the engraving sheet can only be viewed at a particular tilt angle.

Applicant: Suzuki
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More importantly, the Arai patent does not disclose an engraving method which produces a negative water-mark image of a face in the presence of light transmitted from the backside, as defined in amended Claim 4. The Examiner states that column 2, lines 51-67 of the Arai patent discloses a negative image being produced in the engraving sheet. However, the term "negative" as used in this section of the Arai patent only refers to the negative of the original photograph from which a picture signal is derived. It does not refer to a negative image being produced in the engraving sheet as a result of the engraving method. Indeed, there is no mention anywhere in the Arai patent of producing a negative image in the engraving sheet itself. Thus, the Arai patent only discloses an engraving method which produces a positive image in an engraving sheet, wherein the positive image can only be seen at a particular angle.

The Examiner cites U.S. Patent No. 5,871,833 to Henbo et al. as teaching, in Production Example 2, column 7, lines 17-23, a support layer primarily made from polypropylene, where, in Table 1, the engraving layer has an opacity of 93%, (greater than 40%) and the support layer has an opacity of 62% (lower than the engraving layer), making the difference between the two 31% (greater than 20%). It is stated that opacity values enable a fretwork image formed on the engraving sheet to be visible in the presence of light transmitted from the backside of the engraving sheet. However, there is no mention in the Henbo patent that such image is a negative image. Moreover, there is no teaching or suggestion in the Henbo patent of an engraving method which forms a positive image in the presence of reflected light by an engraving tool in response to a picture signal, especially a positive face image in response to an inverted picture signal of the face photograph.

Like the Henbo patent, U.S. Patent No. 5,298,307 to Suzuki et al. only discloses a method which produces a positive image which is visible by transmitting light from the backside of the engraving sheet. Thus, also like the Henbo patent, there is no mention of forming a negative image in the Suzuki patent, nor is there any teaching or disclosure of forming a positive image which is visible in the presence of reflected light.

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In stark contrast to the prior art, the invention defined in Claim 4 involves a method wherein an engraving sheet including a whitened engraving layer is engraved down to a support layer to produce both a positive face image in the presence of reflected light and a negative water-mark image in the presence of light transmitted from the backside of the engraving sheet. Unlike the Arai patent, the positive image produced by the method according to Claim 4 is visible in the presence of reflected light rays without having to tilt the engraving sheet. Accordingly, it is respectfully submitted that amended Claim 4 patentably distinguishes over the prior art.

Conclusion

In view of the foregoing amendment and remarks, favorable consideration and allowance of the application with Claim 4 are respectfully solicited. If the Examiner believes that a telephone interview would assist in moving the application toward allowance, he is respectfully invited to contact the Applicant's attorney at the telephone number listed below.

Respectfully submitted,



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